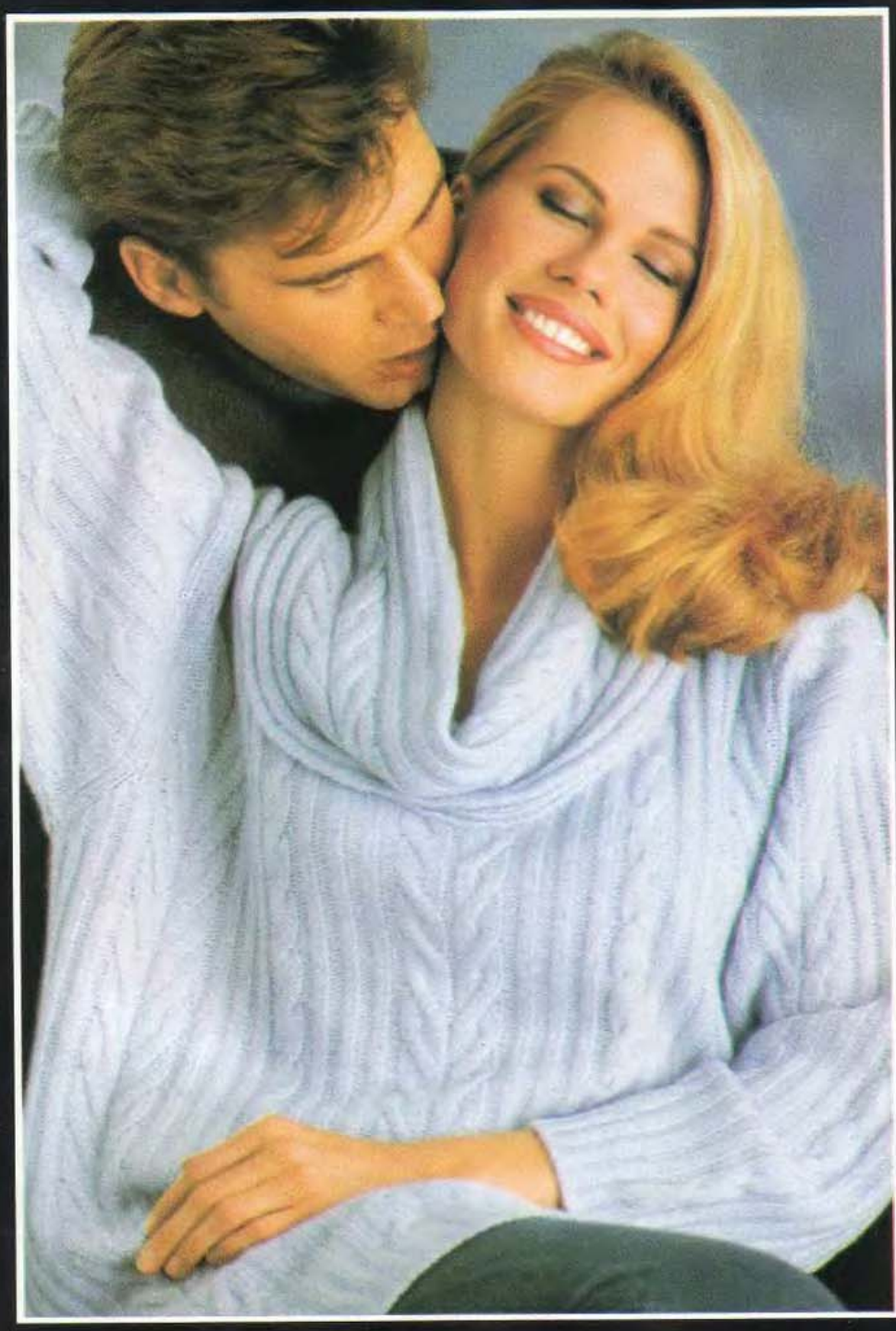
MACHINE KNIT TODAY

CABLE WORKS SUPPLEMENT

FREE 16 PAGES

Cable and twist patterns form an important part of our knitting heritage. In the past they were very closely associated with Aran garments and fisherman's gansey designs, but times have changed and this coming season they are to be seen everywhere!



This design in cashmere was shown at the 'Design in Knitwear' show by N•Peal. It epitomises the combination of luxury yarn, easy styling and the all-important cable

BASIC CABLE KNOW-HOW

Cable and twist designs are easily worked on any make, model or gauge of knitting machine. One of the simplest cables to start with is over a group of four stitches. Although on a small cross-over it is possible to work straight on to a stocking stitch background, it is common to transfer a stitch at each side of the cable group on to their adjacent needle. The empty needles are then pushed into non-working position and left there throughout. The straight thread at each side of the group provides a little extra elasticity when crossing the stitches and also acts as a 'frame' in the way in which a purl stitch would. This is they way our basic cable has been worked. We've illustrated the procedure opposite.

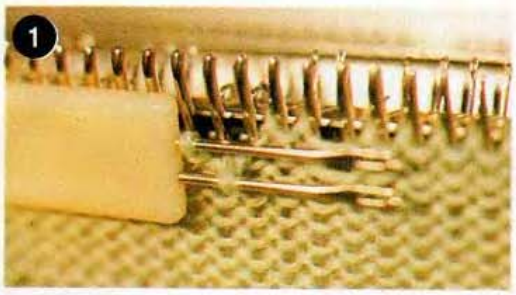
1. Use a double-eyed transfer tool to take off two stitches. Turn the tool at right angles to the work as shown. These first two stitches transferred will be the ones to be crossed *behind* in pattern or diagram instructions. Turning the tool at right angles like this is useful in that the stitches remain securely on the tool and placed across the fabric, serve as an 'extra hand' keeping the knitting back against the sinker plates.

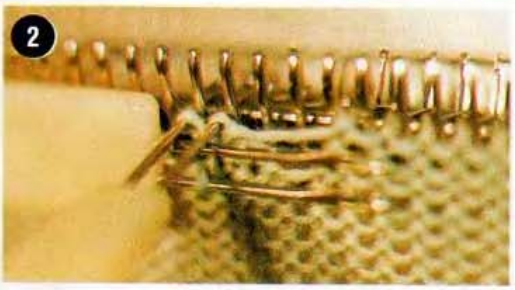
2. Use a second double-eyed tool and transfer the last two stitches of the set of four, on to the first set of vacated needles.

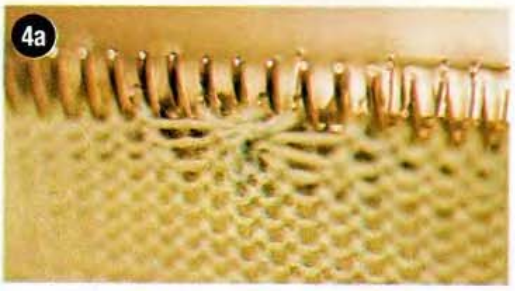
3. Now complete the cable by transferring the remaining stitches on to the recently vacated needles.

4. The cross-over cable process is complete.

A cable panel is formed by knitting a few rows and then repeating the cross-over again, often, but not necessarily throughout (see Swatch 1).





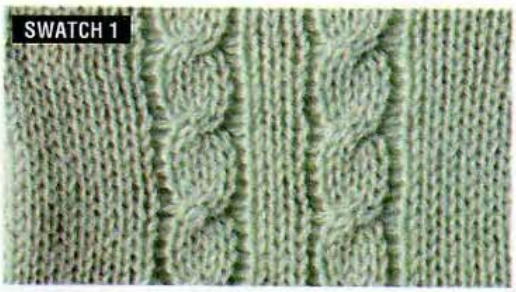


READING CABLE DESIGNS

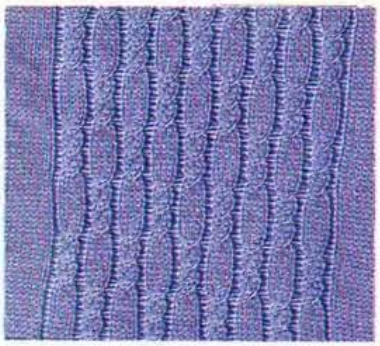
Cable designs can carry written instructions, but these are usually accompanied by a diagram. Diagram 1 shows two ways in which our simple four stitch cable panel might be represented in print.

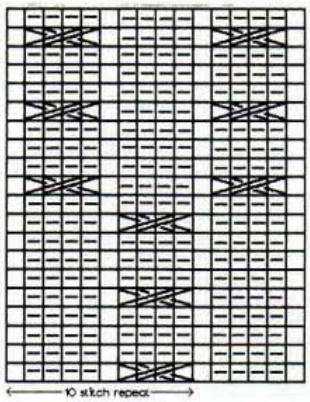
Note: The method used to represent the cable patterns differs between patterns, as some instructions are easier to read for certain specific designs than others. A full table of diagram abbreviations is given on page 6.

Simple this cross-over might be, but used in combination with other similar transfers, interesting and complex designs can be readily built up as illustrated in Swatches 2, 3 and 4.

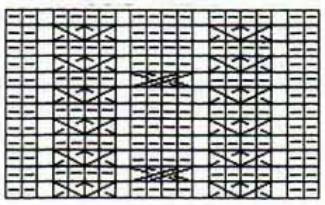


SWATCH 2

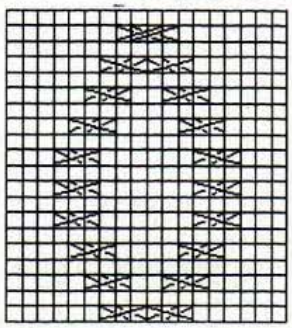




SWATCH 3



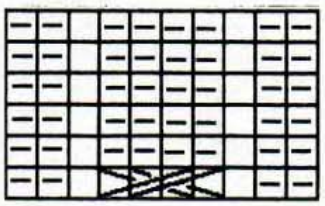
SWATCH 4



Note: All blank squares contain a stitch and there are no stitches out of work

DIAGRAM 1

* Cross A and B behind C and D, K6 rows*. Repeat from * to * throughout.



Stitches crossed *behind* are shown as continuous lines. Often, for clarity, a combination of the systems can be used and graph squares can be left blank, except for cable cross-over positions, even when Ns are in work. Ancillary written instructions will explain the format used.

THE SIX STITCH PANEL WITH RIB

For column trims and all-over cabling, one of the most common cross-overs you will find will be over a six stitch group. The actual crossing of stitches is worked as given for a four stitch group, but using a triple-pronged tool of course (Picture 5).

However, a purl stitch each side of the cable looks a lot more professional than a ladder. Although the ladder could be hooked up to form a column of purl stitches, you'll find the stitches formed are rather tight and not really satisfactory. A neater method is to *allow stitches on either side of cable to knit up to the cross-over point. Drop these adjacent stitches, but leave the empty needles in work. Cross the stitches as required*. Repeat from * to * throughout (see Picture 6). When the cable patterning or piece is completed, and whilst work is still on the machine, use the latch tool to hook up the resultant ladders to form a purl stitch (Picture 7). You could form the purl stitches with the work off your machine and in your lap, but it is quicker and easier to latch up the stitches whilst the work is under tension — which it is whilst still on the machine and with some sort of cast on comb on it. Swatch 5 shows a double column of cables with latched up stitches framing each cable set.

It is not necessary only to work in columns. Small cable columns can be positioned as desired on a garment to emphasise a specific area, to break up a plain background etc. Swatch 6 shows an isolated cable section. Note that the 'framing' stitches have been latched up to the top of the cable, then put on to the needle, so knitting continues plain thereafter.

COMPOSITE DESIGNS

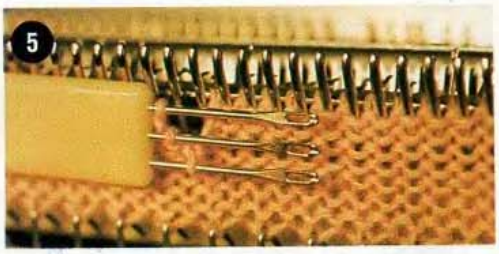
Once the basic cross-over procedure and purl framing options are understood, there are a phenomenal number of stitch designs that can be formed, all from these same basic principles. The three shown in Swatches 7, 8 and 9 all appear extremely complex, but are actually quite simple to do.

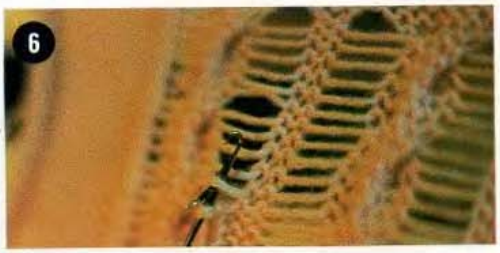
MAKING A WRONG MOVE!

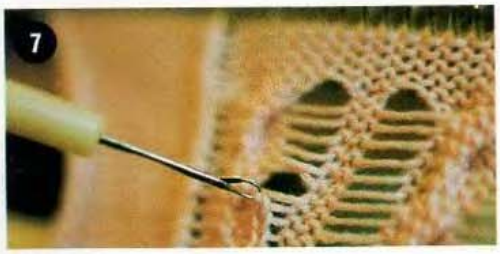
There's nothing worse than completing a complex cable panel/pattern, only to find on removing the piece from the machine that just one cross-over has been worked in the wrong direction! In the words of *The Hitchhikers Guide to the Galaxy*— "DON'T PANIC". Don't throw away the piece or frustratedly start unravelling it — the error can usually be *invisibly* repaired! Check out Swatch 10 — doesn't your eye just go straight to the mistake!

Check for the cross-over row carefully, then cut the thread and unravel it from the incorrectly crossed stitches at the top — see Swatch 11.

Now that the incorrectly crossed







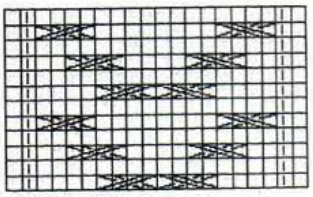
SWATCH 5

SWATCH 6

SWATCH 10

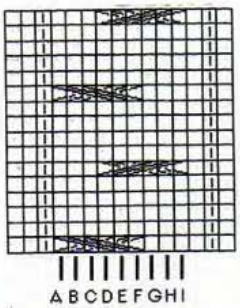
SWATCH 11

SWATCH 7



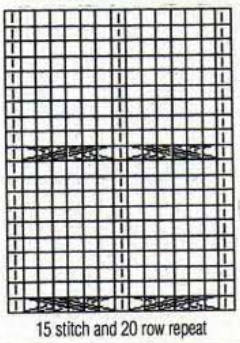
Note: All blank squares contain a stitch and there are no stitches out of work

SWATCH 8

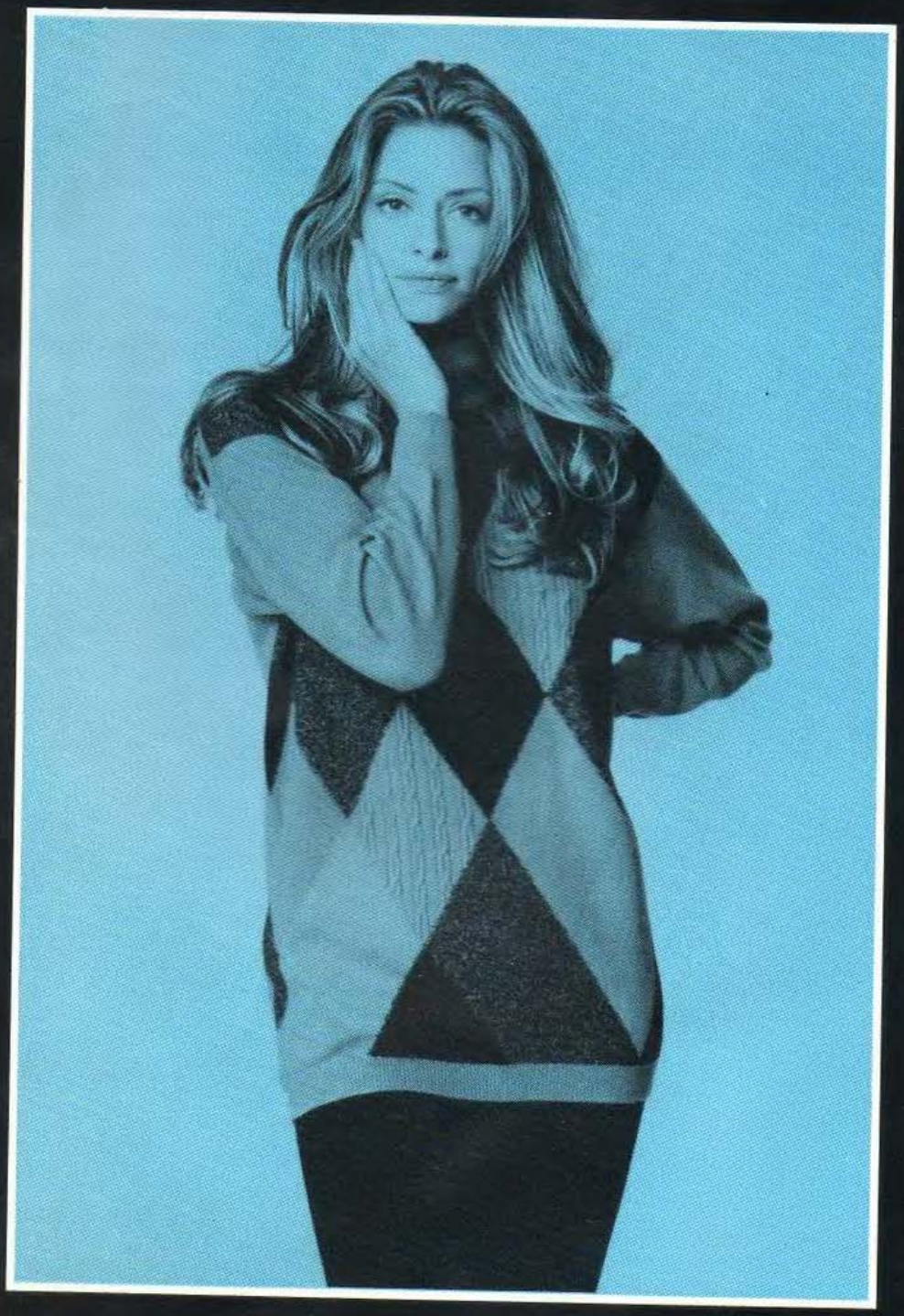


* Cross D, E and F behind A, B and C. K5 rows. Cross D, E and F behind G, H and I. K5 rows *. Repeat from * to * throughout.

SWATCH 9



15 stitch and 20 row repeat



Tunic-shaped diamond Intarsia with cable detailing in 2 ply pure cashmere. Shown at the 'Design in Knitwear' show from the Autumn/Winter 93/94 Ballantyne Cashmere Collection

stitches are free, tuck them through to the wrong side, then graft — or even simply sew — them together. Contrast was used to do this on Swatch 12, but for a garment piece, you would obviously use the main colour. Although it looks a little bit untidy from the wrong side, it is secure and would be much less noticeable after steaming and in a matching colour.
Swatch 13 shows the corrected cross-over from the right side. As you can see, using main yarn, the repair would become invisible.

INVOLVING THE DOUBLE BED

If you use a double bed machine or have a ribber, then this is the obvious means of producing a purl 'frame' to a cable design. However, if you just set up for the rib and try crossing over more than a four stitch group, you might find it too tight to knit properly, even with needles pulled forward to assist the knitting. In extreme cases, you may even break the yarn over the tightest part — the cable cross-over. There are ways of increasing the stitch size in this area — the precise method depends on your pitch setting:

1. When the ribber is set at full pitch — as for 1 x 1 rib ('P' on Japanese machines, handle up for Passap/Pfaff), then you'll need to change pitch one row before crossing over to add in extra yarn length. Diagram 2 shows an example of a needle arrangement which could be used on this setting. Knit straight in full pitch to one row *before* the cross-over is required. Change to half pitch. Push needles marked * on the diagram (on the ribber bed — i.e. the non-cabling bed) to WP and knit the row. Drop the loops formed by the marked needles and return them to NWP. Now work the cross-over — you'll find this is more easily done now that the extra yarn from the ribber loops has been taken up into the cable stitches. Knit the in-between crossing rows as before and repeat the change of pitch etc. prior to each cross-over. Swatch 14 illustrates the finished knitting from this needle and pattern arrangement.
2. A slightly quicker method is to use the half pitch setting (if viable for the design) throughout. Diagram 3 shows a very similar arrangement to that of Diagram 2, but amended for half pitch. You can miss out the step for a change of pitch here, but you still need to push marked needles from NWP to WP on the row prior to cross-over, dropping the loops and returning the marked needles back to NWP before the actual crossing is done. Swatch 15 illustrates the finished result. Apart from the difference in cabling interval, the appearance of the swatches is very similar and I doubt if anyone could tell, simply from the fabric, which purl stitches were worked on full and which on half pitch setting.

LARGE CABLES

Apart from having access to a chunky

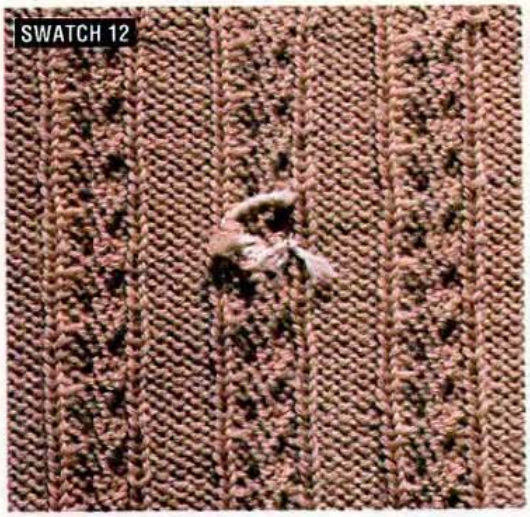
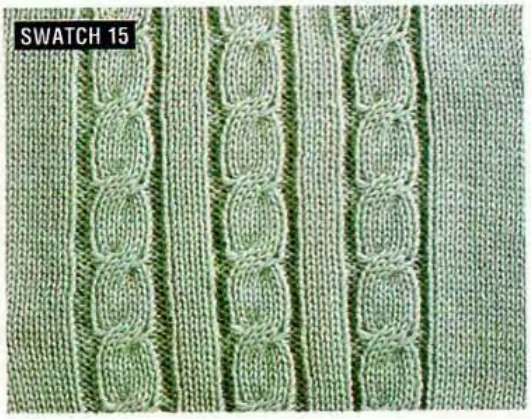


DIAGRAM 2

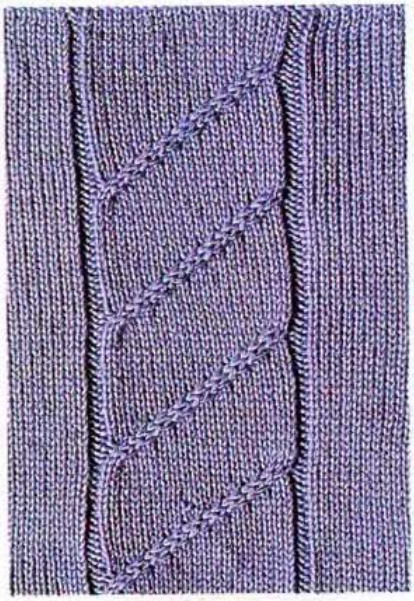
** Full pitch 'P' to row *before* cable cross. Change to half pitch 'H' and push Ns marked * to WP. K the row. Return to full pitch.
Cross stitches **. Repeat from ** to ** throughout.

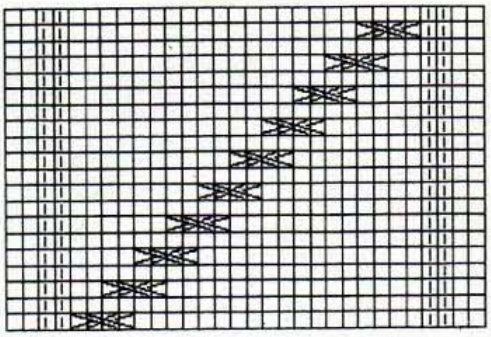
DIAGRAM 3

Work in half pitch throughout.
Repeat as for Diagram 2, ignoring reference to pitch changes.



SWATCH 16





22-24 stitch and 20 row repeat

EXAMPLES OF CABLE CROSS SYMBOLS

= Cross 1 st behind 1 st

= Cross 2 sts behind 2 sts

= Cross 3 sts behind 3 sts

= 1 st and 1 row (when no other indication given on specific diagram)

= Purl st in patt, can be from RB or re-formed on MB

= St on MB

LC = Lace carriage

= Empty N

= Transfer to L

= Transfer to R

= Transfer 1 st from L and 1 from R on to centre st. Leave empty Ns in WP

= N in WP ■ = N in NWP

= Full pitch
N arrangement Pitch 'P'
(as WP Ns directly opposite NWP)

= Half pitch
N arrangement Pitch 'H' (as WP Ns off-set from each other on each bed)

Diagrams and abbreviations should be considered in light of text, as formats have varied slightly throughout for clarity

machine, there are quite a few ways to make a cable design appear quite large, without crossing more than one or two stitches at a time. The following stitch designs illustrate simple means to achieve this end.

A consecutive series of 2 x 2 crossings, progressively moved across a central panel gives the effect of a giant cable (Swatch 16). This method was seen on several garments from the top fashion houses for the autumn and winter and was a special favourite used as a one or two panel decoration on men's wear.

Swatch 17 shows another 'illusion' which for clarity and maximum exaggeration has been worked on a chunky machine. In this instance all the crossings are worked by sets of single stitches! Worked on a finer gauge and in finer yarn, it can also look extremely delicate.

The number of stitches involved in the complete panels of Swatches 16 and 17 can be varied as desired, but add or subtract in units of two — they require an even number of stitches.

ADDING A BIT EXTRA!

Sometimes, nothing but 'the real thing' will do — that is a large group of stitches (well more than three anyway) crossed over a similar sized set. For the extra elasticity required, you need larger stitches in the cable area. Use a separate piece of main yarn (we've illustrated using contrast so you can see clearly) and knit the cable stitches by hand, making quite large stitches. A multiple-ended tool (preferably a pair of them) is useful for the actual crossing (Picture 8).

The stitches are transferred and crossed exactly as the method given at the beginning (for a four stitch group). As this large crossing was worked on the single bed, you can see that the dropped stitch method is being used for a purl 'frame'. Having made the larger stitches and crossed the desired number of stitches — the example shown was worked over a ten stitch group crossing five stitches behind five — knit the in-between rows and work the cable panel as desired.

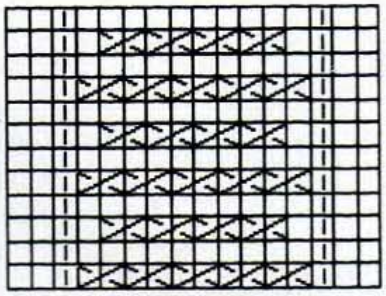
It might look a little messy on the machine (Picture 9) but don't worry about the ends at this stage. Latch up purl stitches before completing the piece and remove from the machine — see Swatch 18.

Even when the main yarn has been used to knit stitches back it is quite likely that the 'loose' stitches will show clearly. Gently pull the ends of the manually knitted row until the stitch size comes close to the rest of the knitting, without distorting it. Swatch 19 shows the finished result when the matching colour is used.

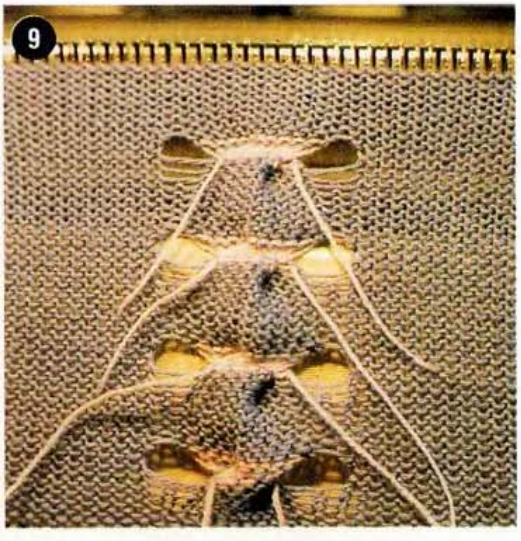
Once you have the tension even, finish off the ends of the added-in yarn by weaving neatly into the back of the work.

If you are using the ribber, you can either add in extra yarn as for the single bed version, or push more needles opposite the cable group to WP (as we did earlier). We give a few

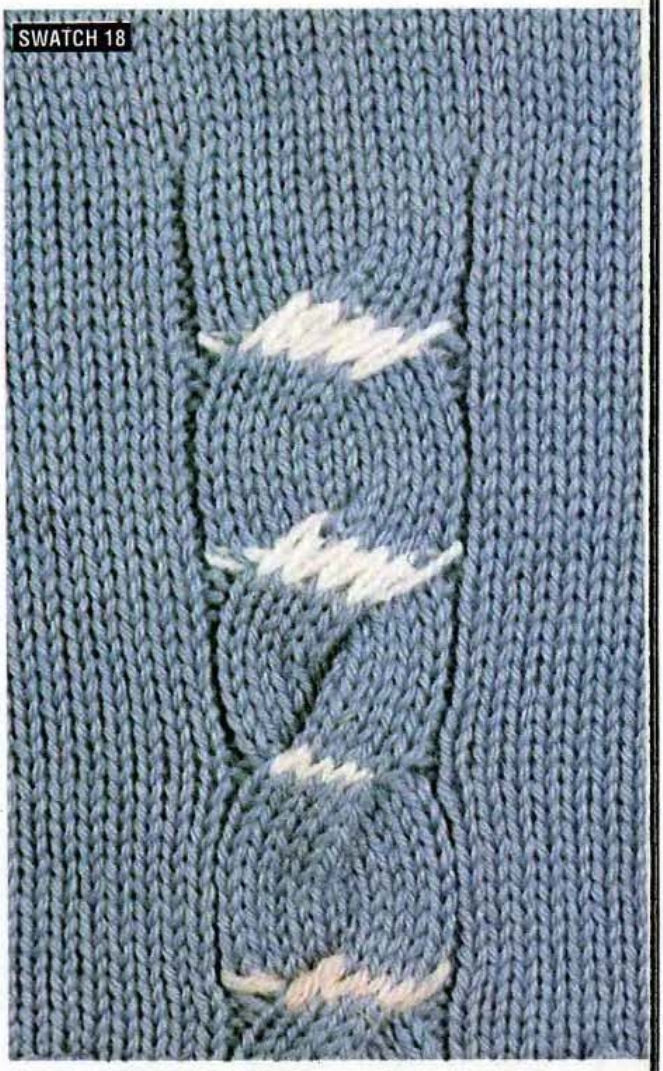
SWATCH 17



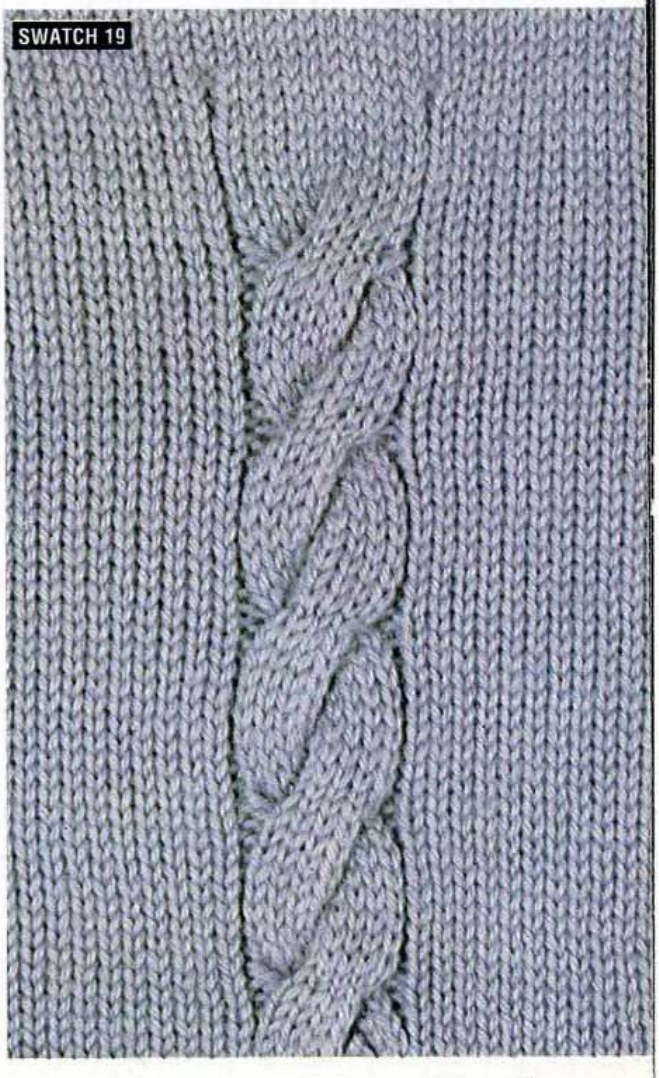
12 stitch and 4 row repeat

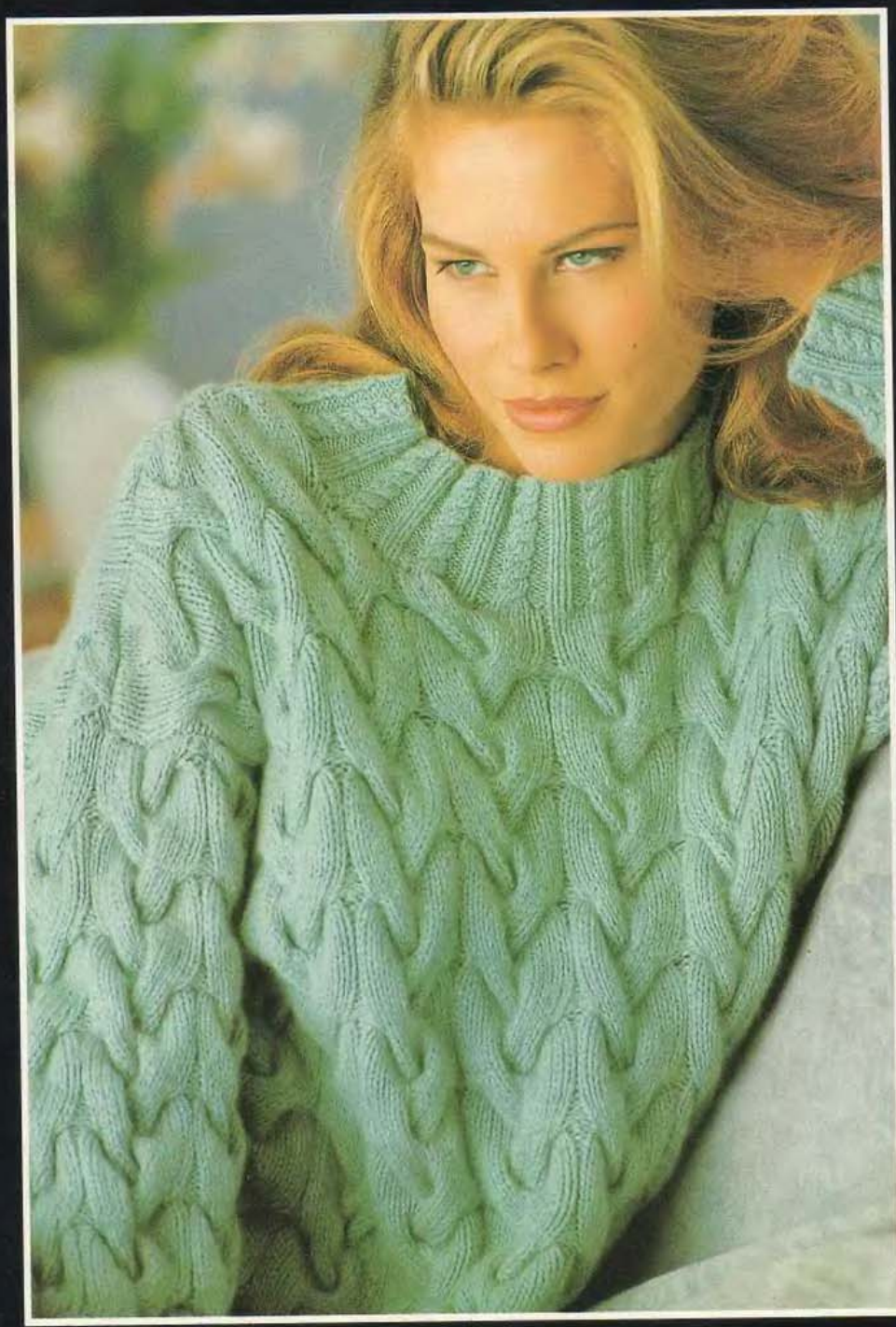


SWATCH 18



SWATCH 19





Large and small cable designs add a timeless quality to this design in cashmere by N•Peal. Shown at the 'Design in Knitwear' show for the Autumn/Winter 93/94 season.

ideas for 'giant' cables in Swatch 20. Although only three stitches are crossed over three, they have a long way to travel as the the ribber stitches in the centre (opposite to a needle out of work on the main bed) remain in situ throughout. This is another bold cable idea seen on fashion knitwear for the coming season.

Swatch 21 shows another exaggeration in size provided by the use of the chunky machine. Pick the right yarns and you can have cables 10cm wide! Pushing up all the 'opposing' ribber needles ensured that the actual crossing was quite easy even though the distance travelled seemed a lot!

The design in Swatch 22 was formed by changing which needles were cabled. Note that depending on which set of cross-overs are being worked, the marked needle on the ribber changes. This is to ensure that the additional yarn is added in at the position it is required. A further variation of this stitch is possible, try reversing the directions — i.e. those formerly crossed behind to be crossed in front.

USING THE GARTER CARRIAGE

The garter carriage has terrific potential for adding appropriate texture on either side of a cable. When you are using the garter carriage, needles cannot be put in holding position, they must remain in working position throughout, or they will inhibit, even perhaps, damage, the garter carriage if the butts are further forward than working position. In order that a cable knits cleanly and has sufficient elasticity to cross without strain, *exactly* the same method as given for large cross-over cables on the single bed is used — i.e. that of manually knitting cable stitches by hand to produce larger stitches. You'll find that cables will cross without strain and knit neatly and correctly on the garter carriage. Some interesting effects and patterns are obtainable with the garter carriage, well worth the little extra time they might take to make.

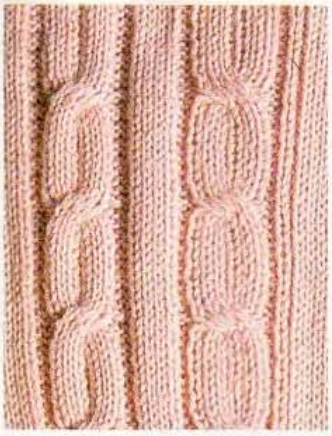
Mixed column stitches (Swatch 23) can be very effective in garter stitch and there is ample opportunity to add small different designs into the columns. Electronic owners can really 'go to town' designing a range of different small columns.

With care you can even add some textural patterning into the cable itself (Swatch 24). In this design single columns of moss stitch have been incorporated into the stitches which are crossed.

As extra yarn is being used anyway to assist in the cable crossing, there is ample opportunity to make the cables more interesting (Swatch 25). Here a centre stitch is not involved in the crossing and gives the effect of separate ribs being cabled.

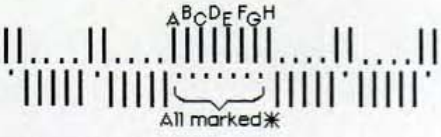
If you prefer, when working *straightforward* cables over four or six stitches, you can cross stitches first, pulling needles out to holding position and

SWATCH 20



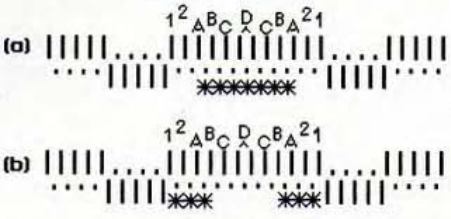
Half pitch ('H' or handle down). Arrange Ns as shown. K5 rows. * Push RB Ns marked ★ to WP and K the row. Drop loops from marked Ns. Cross A, B and C behind D, E and F. K11 rows *. Repeat from * to * throughout.

SWATCH 21



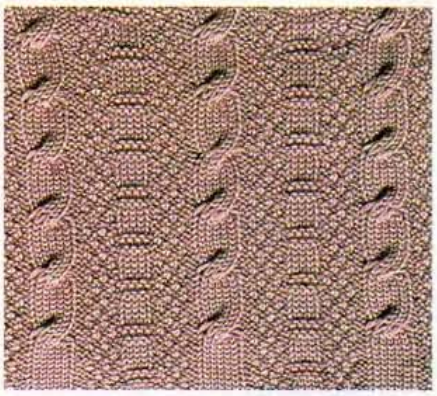
Half pitch ('H' or handle down). Arrange Ns as shown. K5 rows. * Push RB Ns marked ★ to WP and K the row. Drop loops from marked Ns. Cross A, B,C and D behind E, F,G and H. K15 rows *. Repeat from * to * throughout.

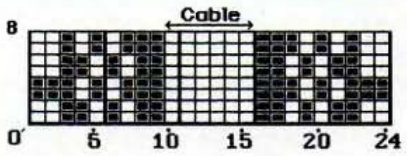
SWATCH 22



Half pitch ('H' or handle down). Arrange Ns as shown. K5 rows. * Push Ns marked ★ in (a) to WP and K the row. Drop loops from marked Ns. Cross A and B behind C and D. K5 rows. Push Ns marked ★ in (b) to WP and K the row. Drop loops from marked Ns. Cross 1 and 2 behind A and B. K5 rows *. Repeat from * to * throughout.

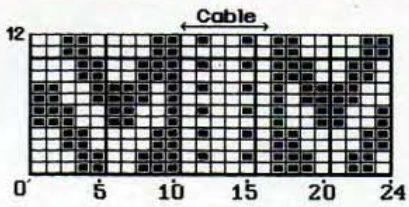
SWATCH 23





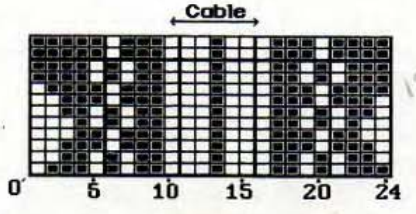
Work cables over the group shown. Use a separate piece of MC to knit cable sts loosely. Cross them and check they align in WP before starting garter carriage.

SWATCH 24



Work cables over the group shown. Use a separate piece of MC to knit cable sts loosely. Cross them and check they align in WP before starting garter carriage.

SWATCH 25



Work cable crossing over the group shown, note that centre stitch remains in situ throughout. Use MC and K the 3 sts to L and R of centre loosely. Cross 3 sts at L behind 3 sts at R, ensure Ns remain in WP before re-starting garter carriage. Sample shows cables made every 15 rows.

then manually knit them back to working position using a separate piece of main yarn, evening up the tension with the rest of the knitting. Once you are confident that the cabled needles are aligned with the rest, the garter carriage can continue knitting.

KEEPING TRACK

Coping with a column trim is usually quite easy to do. Try and make the cable crossing positions at intervals you'll easily remember. For instance, on column cables, the cross-overs can be worked at five or ten row intervals. So, every time your RC ends in 5 or 0 you'll know that the cable needs to be crossed. Some of the composite designs require crossing on alternate rows, so will need your attention every time the carriage is at the right (or left, if that is where you worked the first cross-over). If the design doesn't allow such regularity, then do a bit of pre-planning first. Check the diagram and instructions to find the pattern repeat and then make yourself a table of RC numbers alongside the 'steps' up to the end of the garment piece — see Diagram 4 for an example. Once your actions have been planned and plotted in this manner, you'll find it easy to follow where you are, even if you are unexpectedly interrupted.

USING THE PATTERNING SYSTEM AS A GUIDE

If you have a machine which selects needles into the forward position (Brother and Toyota systems spring to mind), then you can design a punch-card, mylar sheet or program to select needles for crossing. If you work out the card in such a manner that you only select the needles to be taken on to the transfer tool first, you'll find this greatly speeds up the work, especially when you've become accustomed to the design. How you use the selected needles may depend on whether you're working a solely single bed or double bed design. On the single bed, the selected needles may act as the signal to actually cross the stitches. If working on the double bed, you may choose to select the needles the row *before* crossing over, to remind you to put additional ribber needles into work, to give the additional crossing ease required. The following designs can be used in either fashion.

Swatch 26. This would be an awkward repeat to remember, as no two consecutive cable panels are crossed on the same row. You may choose to select all the needles forward for the cable, to remind yourself of the 'set' involved — it's your choice.

The design in Swatch 27 is quite simple to do, but as it alternates two sets of cross-overs at two row intervals with a four row 'gap' it is exactly the sort of sequence you could lose track of if the phone goes right in the middle!

There is a combination both of cable width and varying intervals for crossing in the design in Swatch 28. The two

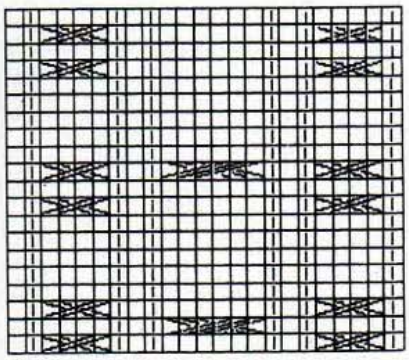
DIAGRAM 4

RC	CABLE
002	4s
003	6
004	4s
010	4s
012	4s + 6
018	4s
020	4s
022	6
026	4s
028	4s
032	6
034	4s
036	4s
042	4s + 6
044	4s
050	4s
052	4s + 6
058	4s
060	4s
062	6
066	4s
068	4s
072	6
074	4s
076	4s

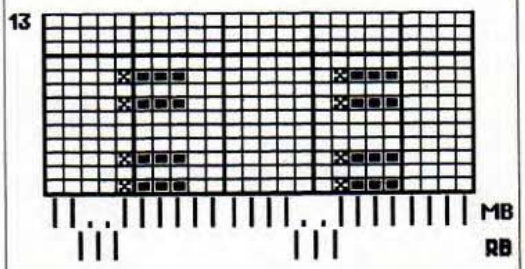
Numeric table to check when cables should occur — virtually essential when two different 'sets' of cables are used together.

The cable diagram only shows the start of the sequence, it would need to be quite long in order to show a complete repeat.

Sometimes a set-up diagram can be shown and written instructions associated with it for such irregular designs, but for the actual knitting, the RC check table is 'safe' and easy to follow.

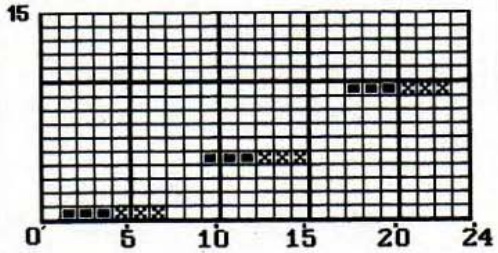


SWATCH 27



Arrange Ns as shown above, half pitch. To make N arrangement easier, without any work on the machine, set carr to select Ns, note the position from them as transfers to be made.

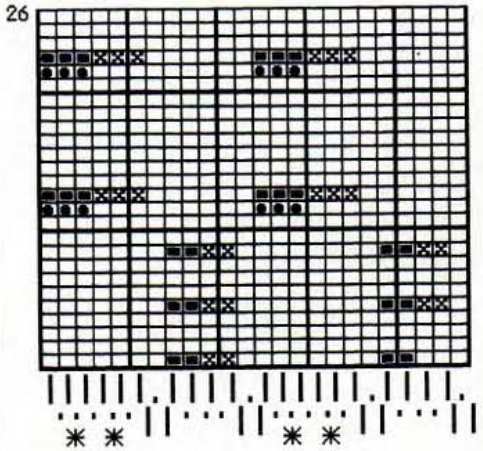
■ = Punched hole for first sts to be transferred
✕ = Position of the rest of the stitches to be crossed



If working on the ribber, you might like to punch holes only double length. The first time sts are selected, put pitch 'H' and push RB Ns below cable position into work — the following row, drop extra RB sts and cross cable sts.

■ = Punched hole for first sts to be transferred
✕ = Position of the rest of the stitches to be crossed

SWATCH 28



■ = 'Punched' hole selecting Ns for transfer
✕ = Stitches not selected but required in cable
✳ = RB Ns to be put into work the row before crossing
● = Optional extra punching, as a reminder to push marked RB Ns to WP
Arrange Ns as shown on half pitch

over two cables don't need any additional help in the form of extra yarn for them to cross cleanly, but the larger three by three cables do. To keep the intervals correct and so you don't forget to push ribber needles into work to add in extra yarn, card can been designed to select the three stitches on two consecutive rows (first to add in ribber needles, second to work the cross-overs). The 2x2 sections are crossed on the row where needles are selected.

CABLES PLUS

There are so many extras you can add into a cable pattern, ranging from lace work to heavy textures. Some of the effects would need to be added in manually, but can add some interesting effects to the cable itself.

In Swatch 29 an eyelet has been added in at the edge of the cable. This is formed by crossing one set of stitches 'short' and is quick and easy to do. There are many possible variations on this design. A very obvious one is to reverse the crossings, so the centres of two adjacent columns both have a lace hole, forming a lacy vertical panel. Working the cross-over over an odd number of needles (although the centre one is not actually involved, it just remains in situ) enables a neat eyelet pattern to be added centrally (Swatch 30).

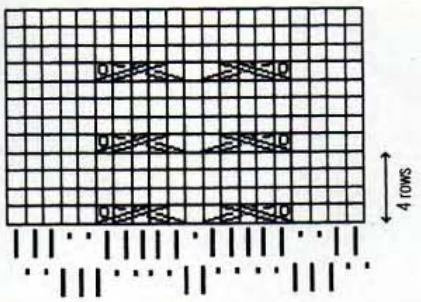
In Swatch 31 more eyelets have been added at the centre of a six stitch group. It looks more complex than it really is, only four of the stitches used in the cable are involved in forming the eyelets.

Swatch 32 is an extended version of the previous design. The actual cross-over shows clearly, but the edge of the cable is rather lost. However, it still forms an attractive and unusual design.

USING THE LACE CARRIAGE

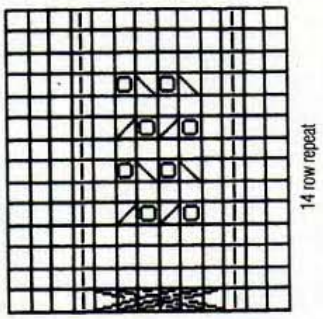
If you have a machine with automatic patterning, you'll find that patterns can be designed with allowance for the cable built-in. Think about what the machine will be doing and the requirements of the knitting and design to see if there is a way of working at least part of the design automatically. I remember a designer producing a beautiful lace and cable cardigan. All the lace work had been done manually, even though she owned a punchcard machine and a lace transfer carriage. When I asked her why she had done so much manually, she replied it was due to the fact that you cannot use the lace carriage when needles are pulled forward to holding position (which she had done each time she crossed the cables). The answer to this is to *work the lace transfer first then cross the cables!* For lace transfer carriages which do not allow the use of holding position, use the method as given for working cables when using the garter carriage, which will enable stitches to sit back in working position with the required degree of ease after crossing. The following designs give some ideas (manual charts are given — as appropriate — for lace for those machines

SWATCH 29



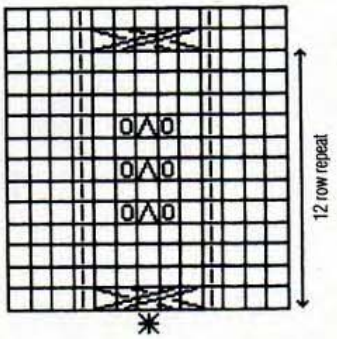
Arrange Ns as shown on half pitch.
Note that the cross-over is not a regular one. One set of stitches is moved across 2 Ns, but the other set of 2 is only moved by one N. The result leaves one empty edge N, which forms the eyelet at the edge of the cable adjoining the rib.

SWATCH 31



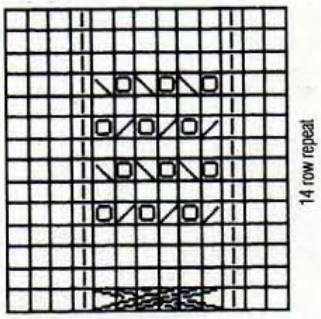
Rib stitches can be formed on RB or manually (see 30).

SWATCH 30



Marked centre stitch remains in situ throughout and is not involved in cable at all. Rib stitches either side may be worked on ribber or by re-forming regularly dropped stitches manually.

SWATCH 32



Rib stitches can be formed on RB or manually (see 30).

without a transfer carriage). Check the pattern diagrams for lace carriage movements in relation to cross-overs.

The design in Swatch 33 uses six stitch group cables, alternating ones edge directly on to the lace pattern. Using pure wool there was sufficient 'strength and give' not to use a dropped stitch. However, on other types of yarns this, or the addition of extra yarn (as for garter carriage and larger cable designs) might be required. Alternatively, life is easier if the three by three cross-overs are replaced by two by two columns. Try it and see.

In Swatch 34 again we worked without a dropped edge stitch. The centre needle remained in situ throughout and did give a little extra ease in the crossing. Make sure that this centre stitch as well as the crossed ones is pulled forward to holding position for the next row. Two simple but different small lace designs have been incorporated in the surrounding fabric — a similar design idea to that mentioned for the garter carriage.

On Brother machines, use of the fine lace setting, even with very simple designs, results in a delightful light textural effect between the cables (Swatch 35).

CABLE TEXTURE AND COLOUR

In the same way as you can add a cable to a column lace design, you can work out similar 'marriages' for other techniques. On the single bed one of the most versatile combinations is with Fair Isle.

The design in Swatch 36 alternates a Fair Isle border with a border of cables. The rib stitches can be formed on the ribber or carefully re-formed manually in the cable area alone. This is another pattern style seen in the current fashion scene and it can have a dramatic effect (see March *Machine Knit Today* for two garment designs incorporating this idea).

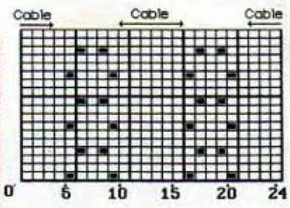
Working a Fair Isle design in columns, with plain spaces between leaves room for the cables to become part of an integrated fabric (Swatch 37). Hooking up re-formed stitches to make the framing ribs is a bit more fiddly as you need to ensure that floats from the Fair Isle do not get caught up. Latch as far as you can until the floats impede your movement. Use a transfer tool to hold the stitch whilst you disengage the latch tool, which you can then re-insert into the stitch once it has 'cleared' the floats. This is more complicated to explain than to do!

In Swatch 38 there is real integration, with the Fair Isle being designed to directly incorporate the movement of cabled stitches.

FISHERMAN'S RIBS AND CABLES

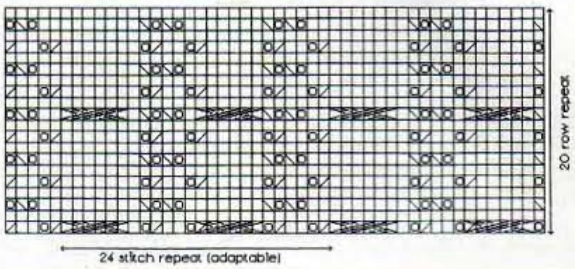
One built-in function on any double bed machine is that of half and full Fisherman's rib. You need to take a little care with the needle arrangements you use for the patterning to keep the cables running neatly and the continuity of pattern between them as illustrated in the following examples.

SWATCH 33



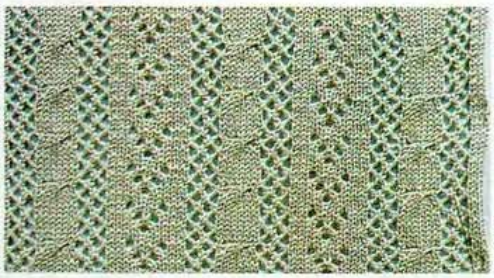
The lace punchcard is actually a 12 stitch repeat, so could be used on these repeating systems.

Lace transfers and cable sequence:
* 2 passes LC, K2 rows
4 passes LC, cross cables, K2 rows
2 passes LC, K2 rows
4 passes LC, K2 rows
2 passes LC, K2 rows
4 passes LC, K2 rows
2 passes LC, cross cables, K2 rows
4 passes LC, K2 rows
2 passes LC, K2 rows
4 passes LC, K2 rows *
Repeat from * to * throughout.

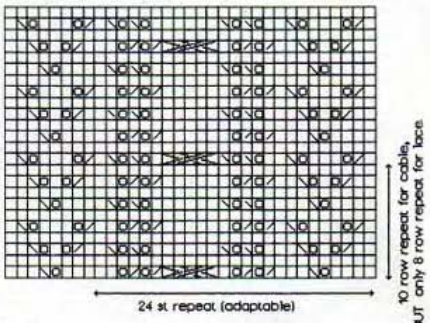


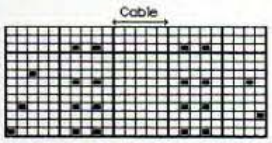
Manual chart.
This is readily adaptable, so that the lace holes do not impede the cables. An additional one or two extra sts can be left either side of cables to permit re-formed sts if desierd.

SWATCH 34



Manual chart. Note that only 2 x 2 sts are crossed, the centre st remains in situ throughout. Work lace transfers from diagram and having positioned cable correctly, use RC check to cross sts every 10 rows.

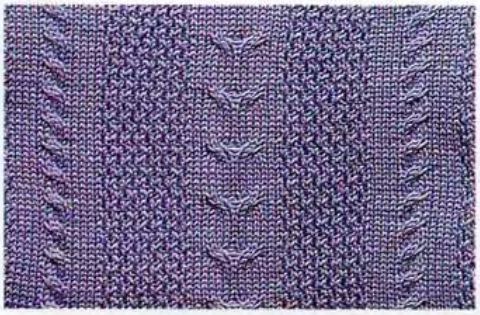


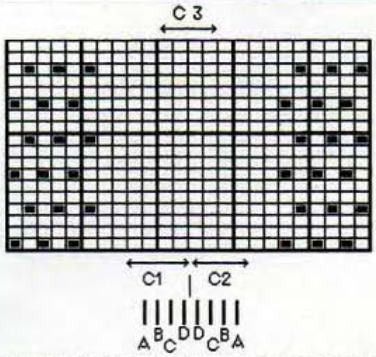


Lace transfers:
* 2 passes LC, K2 rows
4 passes LC, K2 rows
4 passes LC, K2 rows
4 passes LC, K2 rows *
Repeat from * to * for lace patt throughout.

Cables:
Centre st of group remains in situ throughout.
Cross cables every 10th row.

SWATCH 35

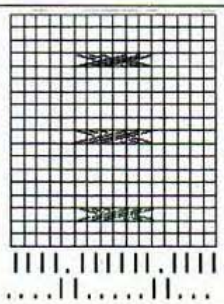




Lace transfers:
Use fine lace setting.
* LC 2 passes, K2 rows
LC 4 passes, K2 rows *.
Repeat from * to * for lace patt throughout.

Cables: This design alternates in the style and direction of the cables. Start from the centre of the machine and you should find that the plain section between the lace falls evenly to L and R of centre '0'. Count this position as C1 and C2. So, the next st st area, to R and L of lace wil be C3 — a single 4 st cable.
For direction of crossing, all single cables to R of centre, treat as lettered in C2; all single cables to L of centre, treat as lettered in C1. The crossing is thus: Cross A and B behind C and D. For double cable (C1 and C2), K10 rows between cross-overs. For single cable (C3), K6 rows between cross-overs. A numbered chart as illustrated in Diagram 4 (page 10) would be an advantage when making a garment in this stitch.

SWATCH 36



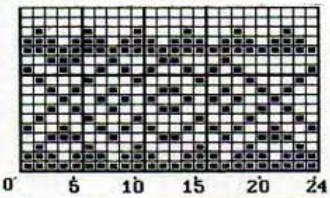
Cast on and work rib welt. Remove weights but leave comb in situ.

Fair Isle Border:

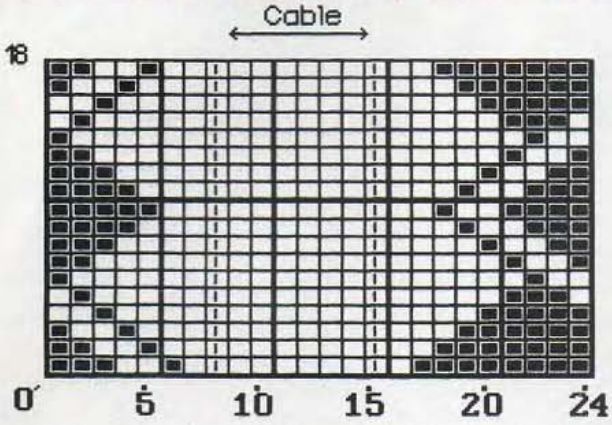
Feeder 1	Feeder 2	Rows
Aran	Purbeck	3
Aran	Pistachio	9
Aran	Purbeck	3

K2 rows st st in Aran

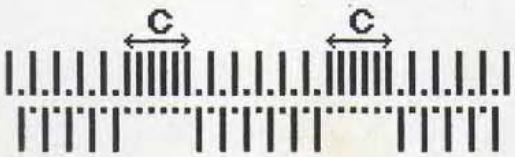
Cables:
Arrange Ns as shown in diagram. Weight comb. MT-1/MT-2, K2 rows. Cable first group and continue to work from diagram, ending with 2 plain rows. Transfer RB sts back to MB, both sts on to empty N. In st st and Aran K2 rows. Repeat Fair Isle and cable sequence as desired.



Single bed machines:
Work as above, but drop and re-form one stitch at each side of cable manually. Note 2 plain rows before and after cable carry the rib stitch. 2 rows each side of Fair Isle, all Ns knit in st st. Thread a piece of WY through dropped stitch when it is first dropped in the cable sequence, so you can control how far it runs back.

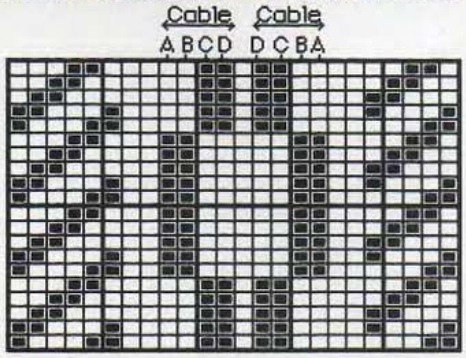


Cable worked over the panel of 6 sts shown, crossing at 10 row intervals. Re-formed rib stitches either side for further definition and texture interest.



Needle arrangement for cables when English (half Fisherman's) rib is being worked. Tucking worked on the ribber (in one direction only). MB set to K throughout.
This setting is only suitable for cables which will be worked right up the garment.

SWATCH 38



Double cable with single stitch remaining in situ in centre. DO NOT pull this centre st into HP when crossing sts. K5 rows Fair Isle. * Cross A and B behind C and D, push 'new' A, B position Ns to HP — they will be in contrast yarn. DO NOT pull Ns in 'new' position C and D forward or they will K in contrast and spoil the colour arrangement. K10 rows. Cross A and B behind C and D. This time push 'new' C and D Ns forward leaving 'new' A and B Ns in WP. K10 rows *. Repeat from * to * throughout.

An easy 'rule of thumb' with this pattern is to only allow Ns carrying contrast yarn to be pulled forward (indeed on machines which select Ns they have to be).

Shown at The 'Design in Knitwear' show, this sweater by East River Knitwear uses a combination of patterns in different areas for its impact

The example in Swatch 39 is only suitable for working complete columns, as the needle arrangement has been amended on each side. If you reverted back for half Fisherman's rib again, the needle arrangement would not work as set!

In Swatch 40, as the cables have been crossed using an odd number of stitches — even though the centre one remains in situ throughout — the overall needle arrangement is not disturbed. Using this style of cable, motifs and odd cable cross-overs can be worked anywhere within the fabric, being started and stopped as desired.

Swatch 41 is not for a novice, but the bold effect of crossing the 'actual' stitches of a full Fisherman's rib is great fun. Worked on a 1 x 1 needle arrangement — no disturbance of the ordinary setting, once again the cable can be started and stopped as desired. Use matching yarn to knit the stitches involved in the crossing very loosely before they are crossed. On standard gauge Japanese machines, alternating prongs of two 7 x 1 tools can be used to speed up the cabling.

THE POTENTIAL OF FULL NEEDLE RIBS

Flat ribs form a wonderful backcloth for cables and for designs with transfer movements. Cables can be crossed either on main bed or ribber bed needles. There is a case to be made for either selection. If you cross stitches on the ribber bed, you can drop it and see where you are in a sequence. However, you may find it more comfortable and natural to cross stitches on the main (back) bed and be willing to forfeit the ability to see the design as you work.

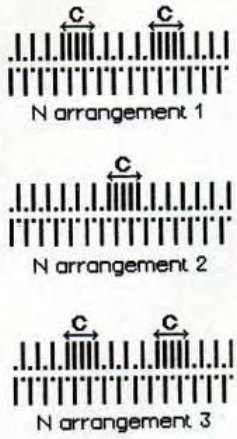
With a ribber which has a plating facility, even the simplest cable columns can have great impact, as illustrated by the designs taken from *Learn to Machine Knit with the Ribber* Book 6.

The fabric of Swatch 42 illustrates open and closed cable cross-overs. Such designs are normally worked from a chart, but a card could be designed to select needles if desired. Four small ribs were involved in the effective panel pattern in Swatch 43, which actually covers quite a few stitches, to give an ultimate illusion of a wide and dramatic design.

ADDING AUTOMATIC PATTERNING

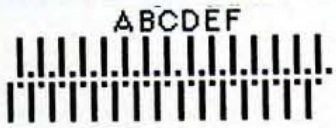
One particularly useful combination for additional texture is tuck patterning. Depending on the needle arrangement, cross-over designs can either appear plain on a textured background, or take up some of the attractive distortions. Simple bird's-eye background fabrics have been selected to show two possible variations. In these designs, which used tuck patterning on the main bed, machines which *don't* select needles are at an advantage, as selected needles don't have to be moved out of the way when cabling. For machines which do select,

SWATCH 40



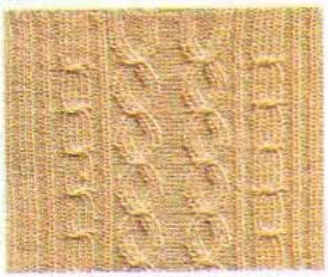
Cables worked over 5 sts, but the centre one is left in situ throughout, only 2 x 2 are crossed. MB set to K, RB tuck (in one direction). Cables can stop and start as desired as N arrangement readily reverts back to the 1 x 1 required for the English rib.
K in English rib until first cable required. Transfer sts as in (1). * K2, cross cables. K6-8, cross cables. K2, return to 1 x 1 arrangement. K20 rows *. Transfer sts as in (2) and work from * to *. Transfer sts as in (3) and work from * to *. Repeat as desired for a panel, or use as scattered motifs.

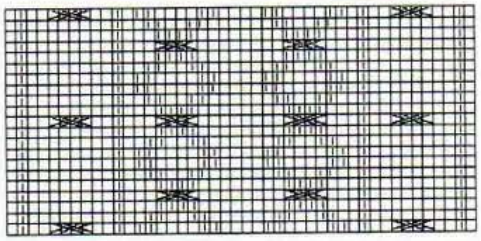
SWATCH 41



Work in full Fisherman's rib. Cross A, B and C behind D, E and F — *after* knitting these sts loosely with matching yarn. K20-30 rows between cross-overs.

SWATCH 42

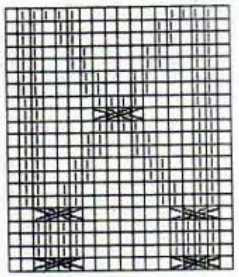




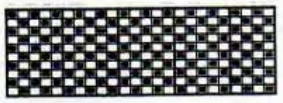
1 square = 1 st and 1 row. RB sts only are shown, all corresponding MB Ns in WP. Half pitch.

The central pattern repeat is exactly as shown in the diagram. The panels of cables at each side have been crossed — in opposite directions, every 10 rows. An interesting straight needle arrangement at each side sets off the panel and makes the whole garment interesting with the minimum of work!

SWATCH 43

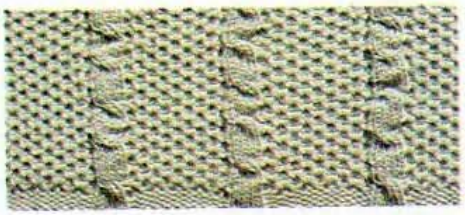


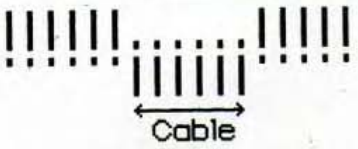
Each square is 1 st and 1 row. RB Ns only shown, all corresponding MB Ns in WP — half pitch. 1 complete repeat shown, work from chart.



Basic Bird's-eye pattern: Use bird's-eye double length for Swatch 44 and on normal rotation for Swatch 45.

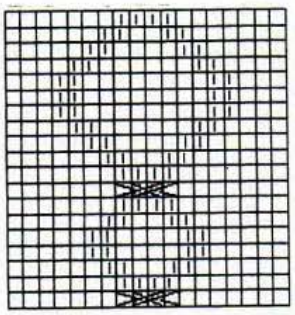
SWATCH 44





Ns can be arranged as desired, remembering that cables are worked on the RB. If no patterning is required in the cables, then use full pitch as shown ('P').

SWATCH 45



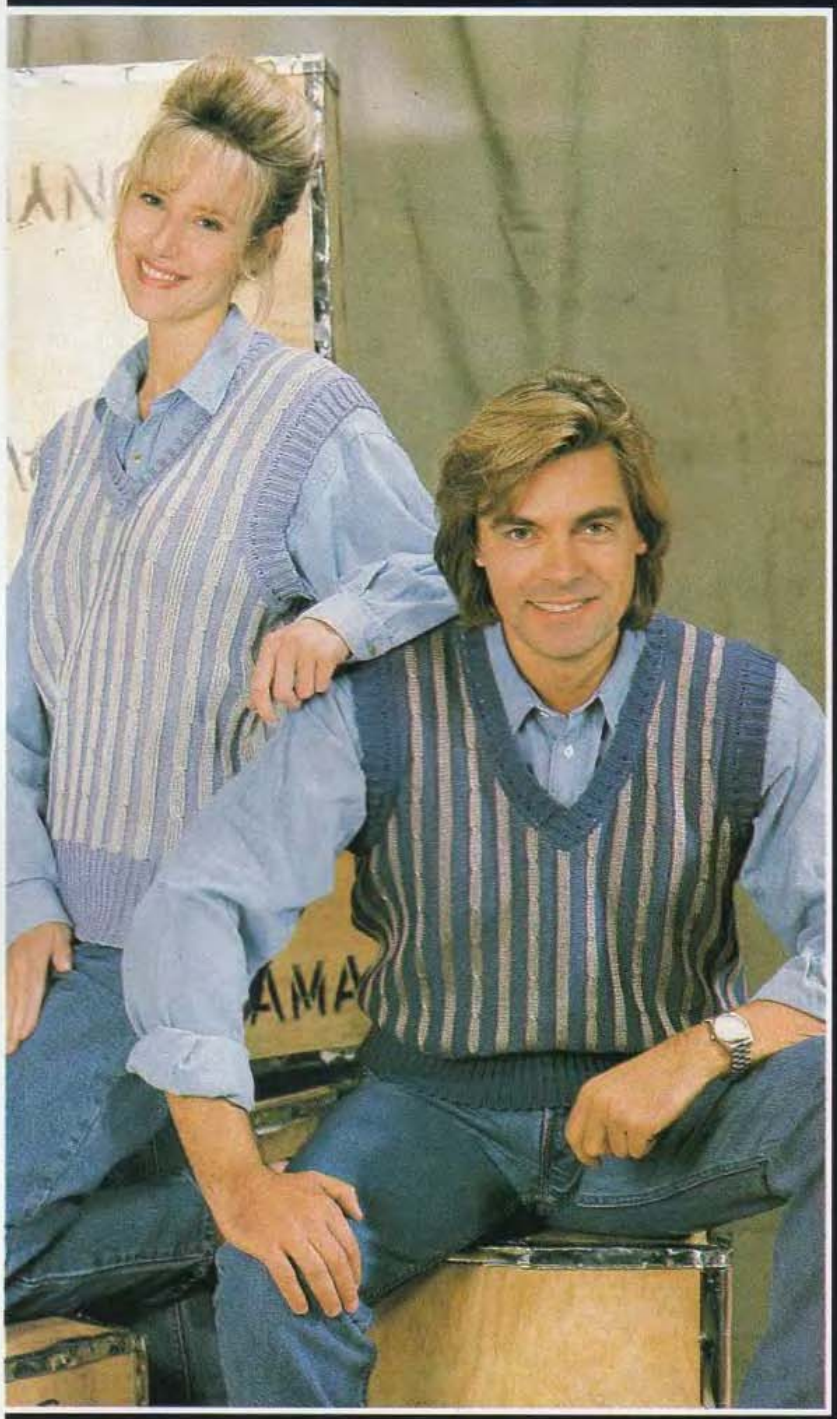
1 square = 1 stitch and 1 row. Only RB Ns shown, all corresponding MB Ns in WP and knitted in tuck. Pitch 'H'.

Only the centre panel has been shown and this can be modified as desired, perhaps by not crossing sts on a repeat, changing the width yet again etc...
Position vertical cables as desired. Those shown on the sample had approx 10 rows, then 4 rows between cross-overs.

take note of the selection before crossing the cable. Move any selected needles which would interfere with the crossing process out of the way, cross the stitches and then manually return them to their original position.
In Swatch 44 the cable columns are formed on the ribber bed and are opposite empty needles on the main bed, so that they don't incorporate any of the stitch pattern. Don't forget, if you have a machine which selects end needles forward for easy Fair Isle knitting, such selection should be cancelled for this type of design. If it is not, then each time the carriage reaches a needle out of work it will take that to be the end of the work and needles adjacent to 'spaces' will be selected on every row.
In the design in Swatch 45 , a full needle arrangement for the rib columns means that the ribber stitches will incorporate some of the tuck pattern. This is not a problem and, indeed, can lead to some fascinating textural patterns. The combination of single and double bed patterning is interesting and even simple designs can be very effective.

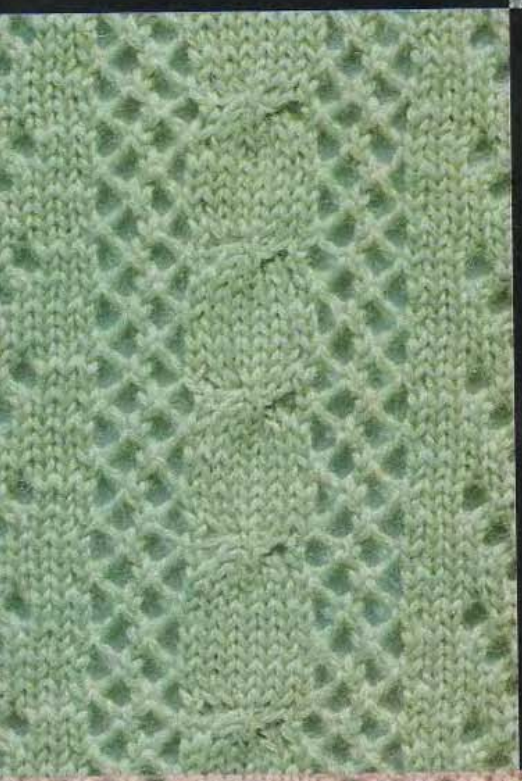
This is far from being the end of potential for cable designs. For interesting designs, look through the many hand-knitting books devoted to Aran and guernsey knits. As you make other fabrics, consider whether a cable could be incorporated and, using many of the guidelines given, how it could be done. As clues to further experimentation, cables can be incorporated into Jacquard fabrics; used in welts and edgings and form distinctive classical lines on raglan decreases. Once you start exploring the fascinating world of cables, you'll almost wonder why other forms of patterning were devised!

Yarns used in the cables were 4 ply wools from T. Forsell & Son in the qualities and shades given in the Stitch Library.
Note that the fashion designs illustrated are all copyright. Should you require details of stockists in order to buy any of the fashion items illustrated, please contact the relevant Fashion House for stockist details:
Ballantyne: 4-6 Savile Row, London W1X 1AF.
East River Knitwear: Stockists include Principles, Debenhams, Miss Selfridge, Top Shop, Dorothy Perkins, Hennes and Asda and various items from their range are available via mail order catalogues such as Freemans, GUS, Grattan, Littlewoods and Empire.
N•Peal: 17 Savile Row, London W1X 1AE.



Designs taken from *Learn to Knit with the Ribber* Book 6 illustrate the dramatic effect of plated cables

MACHINE KNIT TODAY



CABLE WORKS SUPPLEMENT

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